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ABSTRACT

The purpose of this study was to determine differences in word recognition strategies used by good and poor readers. Twenty good readers and twenty poor readers were randomly selected from a fourth grade class and randomly assigned to levels of a five by five repeated-measures Latin Square design. All of the subjects were given two tasks to perform. The first task was to recognize tachistoscopically flashed words that were presented under five different treatment conditions. The other task was a modified cloze test in which prior context was given and only a minimal amount of visual information for the target word was supplied. The results indicated that good readers recognize words faster under all conditions and their recognition strategies were superior in that they were better able to generate words given minimal visual information. (WR)

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Comparison of Word Recognition Speed and Word Recognition Strategies for Good and Poor Readers

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Objectives: The purpose of this study was to determine differences in word recognition strategies used by good and poor readers. This information is of theoretical and applied importance. From a theoretical viewpoint, it is important to know what information processing strategies are used by people who are good or poor readers. From an applied viewpoint, it is important to know how these two groups are different, for once we know the strategies used by good readers it would be possible to design instructional techniques to train the less good readers in the use of these more sophisticated strategies. Based on only partial information, research is going on at the University of Minnesota to train strategies of information processing specifically with regard to reading. This work has proven to be highly successful. We need, however, additional information on the strategies of good and poor readers who are still at the beginning stages of reading acquisition.

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Theoretical Framework: In 1971 the United States Government funded a large project called The Targeted Research and Development Program in Reading. The purpose of this research program was to determine how reading might be facilitated. The first phase of this program was a search of the literature pertaining to models of the reading process as well as the word recognition process. After surveying some 6000 articles directly related to reading, the research team concluded that the most workable model of the reading process was that designated as the hypothesis/test model of word recognition. Joanna Williams, who was one of the evaluators for this project, stated that one of the strengths of the hypothesis/test model was that it permitted the researcher to ask questions about the reading process which were highly specified. By specifying precisely what it was that one was looking for, one could develop testable hypotheses regarding the nature of the word recognition process.

In the research which is reported in this study the hypothesis/test model of word recognition was used to derive certain questions about strategies which might be used by good and poor readers. The essence of the model states that fluent readers need only a minimal amount of visual information in order to make accurate word recognition responses. However, in order to use only minimal visual information what is required is a sufficient amount of prior context. For example, in the context, "Father cut the green..." all that is necessary for making a prediction about the next word

is the minimal visual cue of the letter "g." In the context which has been given, the most probable word would be "grass." In order to test whether or not good and poor readers differed in the ability to use this model of recognition, one of the methods used was a modified cloze procedure. If the difference between good and poor readers lies in their ability to use context and to use minimal visual cues in the text for making accurate word recognition responses then it is entirely possible to design instructional strategies to help all children to develop the skills of fluent reading.

Method: Twenty good readers and twenty poor readers were randomly selected from a fourth grade class and randomly assigned to levels of a five by five repeated-measures Latin Square design. All of these subjects were given two tasks to perform. The first task was to recognize tachistoscopically flashed words that were presented under five different treatment conditions. The other task which each of the subjects performed was to respond to a word recognition strategy test. This test, which was in essence a modified cloze technique in which prior context was given and only a minimal amount of visual information for the target word supplied, was designed to find out what strategies subjects were using when faced with a word lacking all the visual information needed for its recognition.

Procedure: Subjects were tested individually by the examiner. The first task was to recognize words flashed using a Scientific Prototype Tachisto-

scope. This scope permitted a stimulus word to be presented followed by a target noun. An erasing image was presented in order to prevent after-image effects from occurring. Each subject was given a long series of familarization trials with the tachistoscope in order to make the subject comfortable with the procedure. The design for this phase of the experiment may be found in Samuels, Journal of Educational Psychology, 1969, 60, 97-102. In essence the subject had to recognize words under five treatment conditions. These treatments consisted of target words that either were preceded by context or presented in isolation. The method of ascending limits was used in order to establish the latency of the recognition response.

The word recognition test consisted of target words printed on cards. In no case was the target noun spelled completely. The target word consisted of either a first letter with an appropriate number of dashes to indicate the number of letters in the word, two letters from the beginning of the word with dashes, or the first and last letters with dashes. In all cases there was context preceding the target word. This method has come to be called the modified cloze technique. The analysis of variance for repeated-measures Latin Square design for good readers and for poor readers indicated that the treatment effect was highly significant ($p < .001$). When comparisons were made for good readers versus poor readers on each of the five treatment conditions it was found that good readers recognized words significantly faster ($p < .10 - .001$) than the poor readers.

The Student-Newman-Keuls Test indicated that both good and poor readers were effective in using prior context in recognizing words. In fact, target words preceded by context were recognized significantly faster than words presented in isolation.

The word recognition strategy test indicated highly significant differences between good and poor readers. Good readers were better able to use minimal visual cues for generating the deleted word. The ability which the better readers have consists in using the prior context and the letter cues found in the cloze blank for generating a word. This ability to do so is superior for good readers in comparison with poor readers.

Educational Implications: The finding that both good and poor readers have the ability to use context in word recognition but that the good reader is superior in his ability to use minimal visual cues suggests important pedagogical strategies which must be developed in order to have a child achieve fluency. At the present time using hypothesis/test techniques is not well established in terms of a reading method. While reading teachers in general tell children to use context, this is only what may be called lip service. Well laid out pedagogical strategies for teaching hypothesis/test techniques must be developed.